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Thomson

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[54] **ELECTRICALLY CONTROLLED
CONTRACTILE POLYMER COMPOSITE**

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[58] Field of Search 204/296, 450.553,
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[57] **ABSTRACT**

An electrically controlled polymer composite which, when acted upon by an electric current, contracts or relaxes. It can also serve as a smart drug delivery device. The polymer composite is a series of hydrogel layers, each of which serve a particular purpose. A nonionic layer serves as a reservoir for an ionic salt while layers on either side can be anionic hydrogels and cationic gel. The invention can include an imbedded strain gauge by which the contractions or relaxations are monitored and controlled. The device is capable of being controlled by a computer with data acquisition and control capabilities.

20 Claims, 6 Drawing Sheets

